TECHNISCHE UNIVERSITÄT
BERGAKADEMIE FREIBERG
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Chair of
Energy Process Engineering
and Thermal Waste
Treatment

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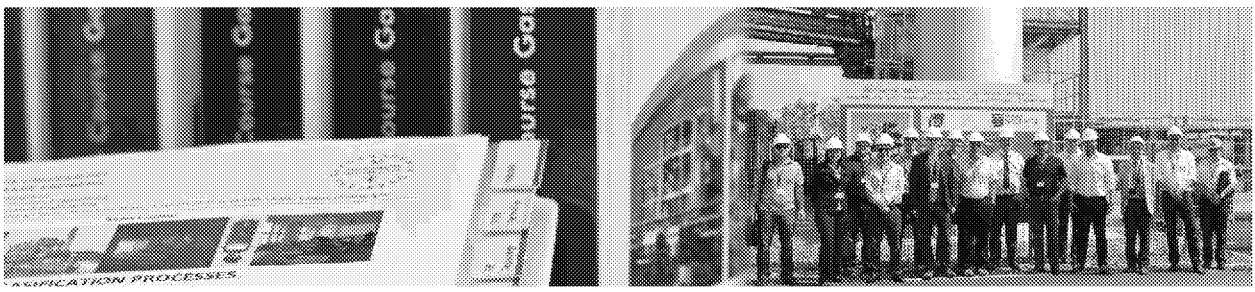
Compact Course:



FUNDAMENTALS OF GASIFICATION & PYROLYSIS

14th - 15th September 2020

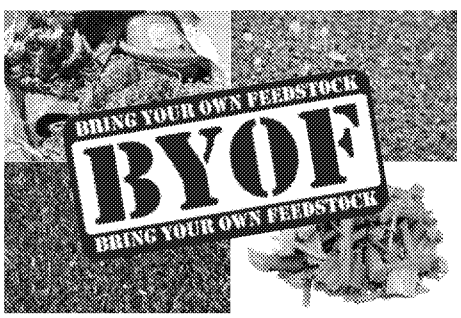
Course Description:

The compact course "Fundamentals of gasification & pyrolysis" provides a general overview of gasification and pyrolysis technologies and related issues. Within two days, participants will obtain a broad overview of the fundamentals of thermochemical conversion along the entire process chain. Day 1 begins with theoretical basics on gasification/pyrolysis and relevant feedstock, a general overview of chemical recycling technologies and industrial gasification applications. The second day starts with industrial pyrolysis technologies, ash/slag behavior and flowsheet simulations followed by gas purification/carbon capture and CFD modelling. Technical tours to pilot plant facilities and specialized laboratory equipment complete the course program.

Target Group:

The course targets engineering, technical and management personnel who are interested in obtaining a first understanding of gasification/pyrolysis processes and technologies or plan to update and expand their knowledge on chemical recycling technologies.

Special Offer:



We offer individualized feedstock characterization and analysis for registered attendants. Test your feedstock prior to the course for a special discount. Please include your request with your registration and we will provide a tailored quotation for your needs.

Training Location:
Institute of Energy Process Engineering and Chemical Engineering
Fuchsmuehlenweg 9, Haus 1, 09599 Freiberg

Accommodation:

A number of single rooms (94,50 EUR per room per day incl. breakfast) are reserved at

Hotel Alekto

Am Bahnhof 3, 09599 Freiberg

+49 (0) 3731 7940; info@alekto.de

Please book a room by yourself referring to the keyword "Gasification Course" until 16.08.2020.

Shuttle Service:

A daily shuttle service from Hotel Alekto to the training location and back will be arranged.

Registration Fee:

2,000.00 €

Including all sessions, course documents, lunch and evening event

Excluding VAT on catering and social program fee

Registration:

Via email: Philip Rößger (gasification-course@tu-freiberg.de)

Cancellation Policy:

Cancellations have to be sent to the IEC in text format. If you cancel your registration 15 days prior to the start date of the event, the full amount will be reimbursed (minus a handling fee of 100 €). After this deadline, no refunds will be given. If needed, the event registration can be changed to a substitute attendee. In this case, no cancellation fees or extra costs occur.

PRELIMINARY SCHEDULE

TIME AND SPEAKER	TOPIC
Monday, 14th September 2020	
08:15 – 08:30	**Welcome**
08:30 – 9:30 Dr. S. Krzack	**Fundamentals of gasification & pyrolysis** - Terms and definitions of thermochemical conversion - Mechanism and reactions of gasification & pyrolysis - Thermodynamic and kinetic aspects - Conversion criteria - Process classification
10:00 – 11:00 L. Seidl	**Overview of chemical recycling technologies** - Introduction to general pathways of chemical recycling and representative technologies - Evaluation with regard to feedstock requirements, process complexity, carbon recycling rate, product yield and quality - Review of developments and TRL
11:30 – 12:30 S. Thiel	**Fuels for gasification & pyrolysis processes** - Classification and characterization of secondary feedstock - Feedstock sampling, preparation and analysis - Characterization and chemical analyses of solids, liquids and gases from technical plants - Relevance of feedstock properties for pyrolysis & gasification processes
12:30 – 13:30	**Lunch**
13:30 – 15:30 (20 min coffee break included) F. Mehlhose	**Industrial gasification technologies** - Classification of gasification technologies - Technology introduction (Moving-Bed Gasifiers / Fluidized-Bed Gasifiers / Entrained-Flow Gasifiers) - Waste gasification
15:45 – 16:45 Dr. P. Seifert O. Schulze	**On-site visit of large-scale test facilities / pilot plants** - Pilot plant for the gasification of gaseous and liquid hydrocarbons by high-pressure partial oxidation (FlexiPOX) - Pilot plant for the synthesis of high-octane gasoline from syngas (FlexiStF) - Pilot-scale fixed-bed slagging gasifier for multiple feedstock (FlexiSlag)
19:00 – 22:00	**Networking Dinner**

TIME AND SPEAKER	TOPIC
Tuesday, 15th September 2020	
08:15 – 9:15 TBD	**Industrial pyrolysis technologies** - Classification of pyrolysis technologies - Waste pyrolysis - Industrial applications
9:35 – 10:35 Dr. S. Guhl	**Ash/slag behaviour in gasification & pyrolysis processes** - Chemical and physical properties of ash/ slag - Description and modelling of ash / slag behaviour - Problems and solutions regarding ash / slag behaviour in waste gasification and pyrolysis
10:55 – 11:55 F. Keller	**Flowsheet simulation of gasification/pyrolysis processes** - General basics on flowsheet modelling - Common software packages - Detailed view on a standard software (ASPEN Plus®) - General modelling approach - Model-based process analysis & application examples
11:55 – 12:55	**Lunch**
12:55 – 13:55 Dr. F. Baitalow	**Processes for gas purification and carbon capture** - General basics on gas purification - Important scrubbing processes for the removal of acid gases (CO2, H2S) - Treatment of acid gases (CO2 utilization, Claus process) - Gas conditioning by CO shift process
14:15 – 15:15 Dr. A. Richter	**CFD modelling of gasification & pyrolysis** - General overview and available software tools - Model approaches for gasification and pyrolysis processes - Examples for industry-relevant process modelling and optimization
15:35 – 16:35 Dr. M. Schreiner	**Specialized lab and advanced technical facilities tour** - Specialized lab equipment: thermo-optical measurement, x-ray analysis, ETV-ICP-OES - Test facilities: pyrolysis apparatuses, drop-tube reactor
16:45 – 17:00	**Closing Ceremony**